

AMENDMENTS TO THE CLAIMS:

Claims 1–15. (Canceled):

16. (Currently amended): A method for inspecting an exposure device, comprising:
a step of guiding light emitted from an illumination optical system to a photomask where a pattern is formed of an optical member including a light transmission pattern as a diffraction grating pattern, in which a first light transmission part and a second light transmission part having a lower transmittance than the first light transmission part are repeated in a predetermined direction, a plurality of ratios are given between lengths of the first and second light transmission parts in a repetition direction, phases of lights which pass through the first and second light transmission parts adjacent to each other differ from each other, and a periphery of the light transmission pattern is shielded by an opaque area, such that a plurality of ratios are given between the first light transmission part and the second light transmission ~~opaque~~ part;

a step of irradiating diffraction light, which has passed through the photomask, onto a projection optical system, thereby to transfer the pattern to a wafer and to form a pattern reflecting an intensity distribution of the diffraction light; and

a step of measuring a change of transmittance depending on a light path of the projection optical system, based on a pattern image of the diffraction light transferred to the wafer.

17. (Original): A method according to claim 16, wherein said pattern transfer is performed in which the photomask and the wafer are non-conjugate with respect to the projection optical system.

18. (Original): A method according to claim 16, wherein
the pattern formed on the wafer is made of a predetermined material, and
the change of the transmittance is measured by measuring a film thickness of the
pattern transferred to the wafer and by obtaining a light intensity of the diffraction light, based
on a predetermined relationship between a film thickness of the predetermined material and an
irradiation light intensity.

19. (Previously presented): A method according to claim 18, wherein the
predetermined relationship between the film thickness of the predetermined material and the
light intensity is a sensitivity curve expressing the relationship between the film thickness of the
predetermined material and the light intensity.

20. (Currently amended): A method according to claim 16, wherein [[a]] the change
of the transmittance is measured in a manner that a boundary between an area where
photoresist was stripped and an area where photoresist was remained is regarded as an
equal-intensity contour curve, a plurality of equal-intensity contour curves each being the
equal-intensity contour curve are obtained respectively under different conditions, and the
plurality of equal-intensity contour curves obtained are layered thereby to obtain an equal-
intensity contour plot.